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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHRIS A. BARTON, JAMES M. VIGNOLES, and
JAMES W. LAWRENCE

Appeal 2008-0772
Application 09/916,929
Technology Center 2100

Decided: July 31, 2008

Before JAMES D. THOMAS, ST. JOHN COURTENAY III, and
STEPHEN SIU, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-13, 17-29, and 33-44. Claims 14-16 and 30-32 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

THE INVENTION

The disclosed invention relates generally to a system, method and computer program product for scanning data (Spec. 1). More particularly, Appellants' invention is directed to using a scanning co-processor under the control of a central processing unit to effect the scanning of data for the purpose of detecting computer viruses, for example, according to one disclosed embodiment (Spec. 6).

Independent claim 1 is illustrative:

1. A method for scanning data, comprising:
 - a) executing scanning control logic utilizing a central processing unit;
 - b) identifying a request related to data at the central processing unit;
 - c) indicating the data to a scanning co-processor coupled to the central processing unit so that the data is scanned by the scanning co-processor under the control of the scanning control logic;
 - d) waiting for results from the scanning co-processor;
 - e) executing additional logic utilizing the central processing unit while waiting for the results from the scanning co-processor; and
 - f) initiating an event based on the results from the scanning co-processor;

wherein the scanning co-processor is under the control of the central processing unit via the execution of the scanning control logic by the central processing unit;

wherein it is determined whether the data meets a predetermined criteria, where the criteria is based on a type of a file associated with the data;

wherein the data is sent to the scanning co-processor if it is determined that the data meets the predetermined criteria;

wherein additional data to be scanned by the scanning co-processor is queued while waiting for the results from the scanning co-processor.

THE REFERENCES

The Examiner relies upon the following references as evidence in support of the rejections:

Grupe	US 2002/0194212 A1	Dec. 19, 2002
Zuta	WO 98/45778	Oct. 15, 1998

Snavely, Allan; Tullsen, Dean "Symbolic Job Scheduling for a Simultaneous Multithreading Processor", Proceedings of ASPLOS IX, November 2000.

THE REJECTIONS

1. Claims 1, 2, 4-13, 17, 18, 20-29, 33-35, 38-40, 42, and 44 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Grupe.
2. Claims 3, 19, 36, 41, and 43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Grupe in view of Zuta.

3. Claim 37 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Grupe in view of Snavely.

CLAIM GROUPING

When multiple claims subject to the same ground of rejection are argued as a group by appellant, the Board may select a single claim from the group of claims that are argued together to decide the appeal with respect to the group of claims as to the ground of rejection on the basis of the selected claim alone. Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately.

37 C.F.R. § 41.37(c)(1)(vii) (2006).¹

Regarding the anticipation rejection of claims 1, 2, 4-13, 17, 18, 20-29, 33-35, 38-40, 42, and 44, Appellants argue claims 1, 4-7, 9-11, 13, 17, 20-23, 25-27, 29, 33, 40, and 42 as a first group (App. Br. 12-14), claims 2 and 18 as a second group (App. Br. 14-16), claims 8 and 24 as a third group (App. Br. 16-17), claims 12 and 28 as a fourth group (App. Br. 17-18), and claims 34 and 35 as a fifth group (App. Br. 18-20).

We select independent claim 1 as the sole claim on which to decide the appeal of the first group, dependent claim 2 as the sole claim on which to decide the appeal of the second group, and dependent claim 8 as the sole claim on which to decide the appeal of the third group, dependent claim 12

¹ We cite to the version of the Code of Federal Regulations in effect at the time of the Appeal Brief. The current version includes the same rules.

as the sole claim on which to decide the appeal of the fourth group, and independent claim 34 as the sole claim on which to decide the appeal of the fifth group. *See* 37 C.F.R. § 41.37(c)(1)(vii).

We consider the anticipation rejection of each of claims 38, 39, and 44 separately, as argued by Appellants (App. Br. 20-22).

Regarding the obviousness rejection of claims 3, 19, 36, and 43 as being unpatentable over Grupe in view of Zuta, we address Appellants arguments based upon purported deficiencies with the primary Grupe reference *infra* (App. Br. 22).

We consider separately the obviousness rejection of dependent claim 41 as being unpatentable over Grupe in view of Zuta, as argued in the Brief (pp. 22-23).

We consider separately the obviousness rejection of claim dependent 37 as being unpatentable over Grupe in view of Snavely, as argued in the Brief (pp. 24).

PRINCIPLES OF LAW

Anticipation under 35 U.S.C. § 102

In rejecting claims under 35 U.S.C. § 102, “[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation.” *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375-76 (Fed. Cir. 2005) (citation omitted).

ANALYSIS

Independent claim 1

We consider the Examiner's rejection of representative claim 1 as being anticipated by Grupe. Appellants present the following principal arguments on appeal:

Appellants contend that the following limitations of claim 1 are not disclosed by Grupe (labeled here for convenience as L1 and L2):

[L1] wherein the scanning co-processor is under the control of the central processing unit via the execution of the scanning control logic by the central processing unit;

[L2] wherein additional data to be scanned by the scanning co-processor is queued while waiting for the results from the scanning co-processor.

Regarding limitation L1, Appellants contend that the scanning computer disclosed by Grupe is not under the control of the source computer (App. Br. 13).

The Examiner points to Grupe's disclosure of transferring data to be scanned from a source computer to a scanning computer (¶ [0009]), and further responds, as follows:

The sending of data from the source computer (i.e. the central processing unit) to the scanning computer (i.e. the co-processor) is an instruction to scan the data sent because the scanning computer scans the data as the next step after receiving the data. Since the scanning computer is instructed by the source computer to scan the data from source computer it is under the control of the source computer.
(Ans. 12).

During prosecution, “the PTO gives claims their ‘broadest reasonable interpretation.’” *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000)).

Here, we observe that the broad language of claim 1 does not require the scanning control logic to be an integral part of the central processing unit. Significantly, when we look to Appellants’ Specification for *context*, we find Appellants expressly disclose that “scanning control logic 306 *may* be common with the central processing unit 304.” (Spec. p. 7, l. 25, *emphasis added*). Thus, consistent with Appellants’ Specification, the scanning control logic 306 is not required to be common with central processing unit 304.

From the above discussion, it is our view that the claimed “execution of the scanning control logic by the central processing unit” broadly reads on remote function calls (remote procedure calls), or even remote functions that are triggered by actions of the central processing unit. Therefore, we see no error in the Examiner’s reasoning that the act of transferring data from the source computer to the scanning computer instructs or triggers the scanning computer to scan the data. Because Grupe’s scanning computer is responsive to the data transfer from the source computer, we agree with the Examiner that Grupe’s scanning computer is broadly but reasonably “under the control of the central processing unit,” as claimed (claim 1).

Regarding limitation L2, Appellants contend that merely transferring data to be scanned and then scanning the data, as disclosed by Grupe, does not disclose queuing additional data to be scanned while waiting for the

results from the scanning processor, as required by the language of claim 1 (App. Br. 14).

In the rejection (Ans. 5), the Examiner points to Grupe's disclosure in paragraph 0009 (discussed above), and further refers to Grupe's paragraph 00034 in the response to arguments section of the Answer (p. 13), as follows:

In other words, Grupe discloses the files are sent and scanned by the scanning computer and once all the files have been scanned the log is sent to the source computer. Therefore, the files that have yet to be scanned are stored while waiting for the results because the results are not sent until all of the data has been scanned.
(Ans. 13).

Because new data to be scanned is stored in Grupe's source computer while the source computer waits for the log file of old data to be sent from the scanning computer (*see* Grupe, ¶¶ 0009, 0034), it is our view that the weight of the evidence supports the Examiner's position.

On this record, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of representative claim 1 (and claims 4-7, 9-11, 13, 17, 20-23, 25-27, 29, 33, 40, and 42 that fall therewith) as being anticipated by Grupe.

Claim 2

We consider the Examiner's rejection of representative claim 2 as being anticipated by Grupe.

Appellants contend that Grupe fails to disclose "processing the data utilizing the central processing unit upon the receipt of favorable results from the scanning co-processor including a situation where malicious code is not detected," as claimed (App Br. 15).

We note that Grupe's log file (that contains or does not contain indicia of computer viruses, worms, and the like (*see* para. 0011) is transferred back to the main computer for analysis (*see* Grupe's Fig. 4 flowchart, *also see* ¶[0010]). Grupe's flowchart in Figure 4 clearly discloses the situation where malicious code (virus or banned content) is not detected (i.e., favorable results). Therefore, we see no error in the Examiner's reasoning as set forth in the Answer (p. 14).

On this record, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of representative claim 2 (and claim 18 that falls therewith) as being anticipated by Grupe.

Claim 8

We consider the Examiner's rejection of representative claim 8 as being anticipated by Grupe.

Appellants contend that Grupe fails to disclose "wherein the event is initiated under the control of the scanning control logic," as claimed.

The Examiner disagrees. The Examiner contends that Grupe discloses initiating an event (i.e., the scanning of data) either by scanning the data by the source computer (paragraph [0015]) or by sending the data to a scanning computer (paragraph [0016]) using scanning control logic (i.e., the computer program) (Ans. 15).

We note again that the broad language of claim 1 (from which claim 8 depends) does not require the scanning control logic be an integral part of the central processing unit. Therefore, we see no error in the Examiner's reasoning, as set forth in the Answer (*see* Ans. 14-15).

In the Reply Brief, in response to the Examiner's new reliance upon Grupe's paragraphs 0015-0016, Appellants present a "teaching away" argument. Appellants contend that initiating the scanning of data by Grupe does not teach, and in fact teaches away from a technique where the event is initiated under the control of the scanning logic (Reply Br. 8).

However, "[t]eaching away is irrelevant to anticipation." *Seachange International, Inc., v. C-Cor, Inc.*, 413 F.3d 1361, 1380 (Fed. Cir. 2005). Therefore, Appellants' "teaching away" argument is misplaced, because the Examiner has rejected the claims under 35 U.S.C. § 102.

On this record, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of representative claim 8 (and claim 24 that falls therewith) as being anticipated by Grupe.

Claim 12

We consider the Examiner's rejection of representative claim 12 as being anticipated by Grupe.

Appellants contend that Grupe fails to disclose "wherein virus signatures are stored in the memory," as claimed (App. Br. 10, claim 12).

In response, we find Grupe's general purpose computer system has expressly disclosed memory components (*see* RAM 206, Fig. 5, *see also* ¶ [0038]). Grupe also expressly discloses virus definition profiles (i.e., virus signatures) (¶ [0028]). Therefore, we see no error in the Examiner's finding of inherency that "in order to make any type of comparison in a processor each value involved in this comparison *must* be stored in some type of memory because if both values were not stored, one value would not be available for comparison." (Ans. 15, emphasis added).

Thus, it is our view that the Examiner has provided a rationale in the Answer that reasonably supports the Examiner's finding of inherent anticipation. "[A]fter the PTO establishes a *prima facie* case of anticipation based on inherency, the burden shifts to appellant to 'prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.'" *In re King*, 801 F.2d 1324, 1327 (Fed. Cir. 1986) (quoting *In re Swinehart*, 439 F.2d 210, 212-13 (CCPA 1971)). *See also* MPEP §§ 2112 (IV.), (V.). Here, while we have fully considered Appellants' arguments in the Brief and Reply Brief, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence

persuasive of error in the Examiner's rejection of representative claim 12 (and claim 28 that falls therewith) as being anticipated by Grupe.

Independent Claim 34

We consider the Examiner's rejection of representative claim 34 as being anticipated by Grupe.

Appellants contend that Grupe fails to disclose "queuing additional data to be scanned by the scanning co-processor while waiting for the results from the scanning co-processor," as claimed (App. Br. 18-19; claim 34).

In response, we have fully addressed these limitations regarding claim 1, as discussed *supra*.

Appellants further contend that Grupe fails to disclose "processing the data utilizing the central processing unit upon the receipt of favorable results from the scanning co-processor including a situation where malicious code is not detected," as claimed (App. Br. 12; claim 34).

In response, we have fully addressed these limitations regarding claim 2, as discussed *supra*.

On this record, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of representative claim 34 (and claim 35 that falls therewith) as being anticipated by Grupe.

Claim 38

We consider the Examiner's rejection of dependent claim 38 as being anticipated by Grupe.

Appellants contend that Grupe fails to disclose "wherein the criteria is further based on a user," as claimed (App. Br. 20).

In response, we note that Grupe expressly discloses that "embodiments of the above invention can be use to detect any content of a file that the user specifies." (¶ [0036]). We note that the claimed "criteria" need only be "based on a type of file associated with the data" (*see* claim 1 from which claim 38 depends) and must also be "based on a user." (Claim 38). Therefore, given the breadth of the claim language (e.g., Appellants' use of the broadening qualifiers "based on" and "associated with"), we see no error in the Examiner's findings as set forth on page 17 in the Answer.

On this record, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of representative claim 38 as being anticipated by Grupe.

Claim 39

We consider the Examiner's rejection of dependent claim 39 as being anticipated by Grupe.

Appellants contend that Grupe fails to disclose "wherein the criteria is further based on software logic run by a bios," as claimed (App. Br. 20-21).

The Examiner disagrees. The Examiner notes that Grupe's paragraph [0031] discloses: "The files copied from the source computer may be a complete set of files stored on the computer" (Ans. 17-18). The Examiner contends that "when all the files are sent as a criterion for scanning, the software logic that is run by a bios is included with these files and therefore the criteria is based on software logic run by a bios." (*Id.*).

We focus our attention on Appellants' use of the broadening qualifier "based on," as recited in claim 39. We conclude that *any* nexus between the recited "criteria" and the "software logic run by a bios" is sufficient to meet the broad "based on" language of the claim (claim 39). We find that the general purpose computer disclosed by Grupe (at ¶ [0038]) necessarily (i.e., inherently) relies on a BIOS (Basic Input Output System), as a BIOS is required to boot the operating system and perform other fundamental computer functions. Given this context, we find that all software executed on a general purpose computer (as that term was known in the art at the time of the invention) is in a broad sense "run by a bios," as claimed. The BIOS loads and boots the operating system that, in turn, provides an execution environment for one or more application programs, such as the computer programs disclosed by Grupe. Therefore, we find the weight of the evidence supports the Examiner's finding that the language of the claim broadly but reasonably reads on the Grupe reference.

On this record, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 39 as being anticipated by Grupe.

Claim 44

We consider the Examiner's rejection of dependent claim 44 as being anticipated by Grupe.

Appellants contend that Grupe fails to disclose "wherein the central processing unit aids the scanning co-processor when a large amount of data is to be scanned," as claimed (App. Br. 21).

The Examiner disagrees. The Examiner points to paragraph [0016] of Grupe that discloses: "[b]y dividing the data to be scanned into different fractions and sending each fraction to a different scanning computer, a scan can be performed in less time than it would take a single scanning computer." The Examiner contends that since Grupe's source computer has a computer program operable to scan computer data (§ [0015]), it is also a scanning computer, and thus "aids" the scanning computers.

We broadly but reasonably construe the claim term "aids" to mean *any* assistance given to the scanning computer by a main or central processing computer. Given this construction, we find that merely supplying the scanning computer with data meets the broad language of the claim. Because Grupe at least discloses supplying one or more scanning computers with data to be scanned (§ [0016]), we find Grupe anticipates claim 44.

On this record, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 44 as being anticipated by Grupe.

Obviousness under 35 U.S.C. § 103

PRINCIPLES OF LAW

“What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.” *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1742 (2007). To be nonobvious, an improvement must be “more than the predictable use of prior art elements according to their established functions.” *Id.* at 1740. Appellants have the burden on appeal to the Board to demonstrate error in the Examiner’s position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (“On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)). Therefore, we look to Appellants’ Briefs to show error in the proffered *prima facie* case.

Dependent claims 3, 19, 36, and 43

We consider the Examiner’s rejection of claims 3, 19, 36, and 43 that stand rejected as being unpatentable over Grupe in view of Zuta.

Appellants contend that the limitations of these claims have not been met due to the deficiencies in the primary Grupe reference, as previously discussed regarding the claims in group one (or group five regarding claim 36) that stand rejected as being anticipated by Grupe (App. Br. 22).

In response, we see no deficiencies with the Examiner's reliance upon Grupe regarding the anticipation rejection of the claims in group one or group five, as discussed *supra*. On this record, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claims 3, 19, 36, and 43 as being unpatentable over Grupe in view of Zuta.

Claim 41

We consider next the Examiner's rejection of dependent claim 41 as being unpatentable over Grupe in view of Zuta.

Appellants contend that neither Grupe or Zuta teaches or suggests "wherein the scanning control logic is executed automatically when a computer is booted," as claimed (App. Br. 23). Appellants contend that Zuta's disclosure on page 24 (¶ 1) of using controller 21 to load, at power up, known viruses patterns as well as interrupts or file operations does not meet the language of the claim that requires executing scanning control logic automatically when the computer is booted. (App. Br. 23).

After considering the evidence before us, we do not find, and Appellants do not indicate, an explicit definition of the term "scanning control logic" in the Specification. Appellants broadly describe that "scanning control logic 306 includes software" (Spec. p. 7, l. 16). Appellants further reveal that "the scanning control logic 306 *may* be

common with the central processing unit 304.” (Spec. p. 7, l. 24-25, emphasis added). Appellants’ drawings merely disclose scanning control logic 306 as a box (Spec. Fig. 3).

Therefore, we broadly but reasonably construe the recited “scanning control logic” as *any* software related in some manner to scanning. We find the primary Grupe reference teaches scanning software, as previously discussed, and we find that the secondary Zuta reference teaches and/or suggests loading software components at power up (i.e., when the computer is booted). The Examiner’s rejection is based upon the *combination* of the references.

Thus, Appellants’ argument is directed to individual references in isolation rather than the combination of references as a whole. The Court of Appeals for the Federal Circuit has determined that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Appellants further contend the Examiner has not provided a motivation to combine Grupe with Zuta (App. Br. 24, ¶1).

“When a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.” *KSR at 1740* (quoting *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)).

The Supreme Court in *KSR* reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 127 S. Ct. at 1739. The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *KSR* at 1740.

Here, we find nothing more than a combination of familiar elements claimed (i.e., scanning software and software that runs automatically when the computer is booted) that would have been readily combinable by an artisan having ordinary skill according to known methods to yield a predictable result (claim 41).

On this record, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of independent claim 41 as being unpatentable over Grupe in view of Zuta.

Claim 37

We consider the obviousness rejection of dependent claim 37 that stands rejected as being unpatentable over Grupe in view of Snavelly.

Appellants contend that the limitations of claim 37 have not been met due to the deficiencies in the primary Grupe reference, as previously discussed regarding the claims in group five that stand rejected as being anticipated by Grupe (App. Br. 22).

In response, we see no deficiencies with the Examiner's reliance upon Grupe regarding the anticipation rejection of the claims in group five, as discussed *supra*. On this record, we conclude that Appellants have not sustained the requisite burden on appeal in providing arguments or evidence persuasive of error in the Examiner's rejection of claim 37 as being unpatentable over Grupe in view of Snavelly.

CONCLUSIONS OF LAW

Based on the findings of facts and analysis above, we conclude Appellants have not met their burden of showing that the Examiner erred in rejecting claims 1, 2, 4-13, 17, 18, 20-29, 33-35, 38-40, 42, and 44 under 35 U.S.C. § 102(e) for anticipation.

Likewise, we conclude Appellants have not met their burden of showing that the Examiner erred in rejecting claims 3, 19, 36, 37, 41, and 43 under 35 U.S.C. § 103(a) for obviousness.

Therefore, claims 1-13, 17-29, and 33-44 are not patentable.

DECISION

We affirm the Examiner's decision rejecting claims 1-13, 17-29, and 33-44.

Appeal 2008-0772
Application 09/916,929

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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